

Chapter 2.20

e-Impresa: A System Dynamics Strategic Model to Evaluate SME Marketing On Line Investment

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ABSTRACT

Electronic commerce, marketing on line, and network economy are today's keywords of (possible) success. But how many managers effectively know about the cost and benefits of starting to sell their products and services through the Web? How much they should invest at the beginning and how long does it takes to have a break-even point of their investment? In order to give support for better understanding the process of the Web marketing and to have more elements to decide to "dive" or not in this virtual world a System Dynamics (SD) model (Forrester J.W. 1961, 1971, 1980), has been developed. The model has the aim to support strategic decisions for SME involvement in e-Commerce, pointed out to guarantee sustainable growth and medium-long term success. The project e-Impresa1 analyses the whole process of the investment in building and maintaining a web site, taking into account the main variables of E-commerce. Through a case study, a SD business game model has been developed. The model gives the opportunity to users to evaluate dif-

ferent what-if analysis through the simulation period time (2 years) at each model step time (4 weeks). This chapter will explain the overall architecture of the model and will present some results of use of the model in different conditions.

INTRODUCTION

The decision to start up a web marketing project has to fit well into the general company strategy in order to contribute in achieving the goals of its mission. Indeed web marketing "initiatives" which appear disconnected to the general company strategy both run the risk of the failure and, sometimes, weaken companies' market shares.

The e-Commerce business, beside representing a new market opportunity, also stimulates improvement in the degree of efficiency of the strategic corporate functions (such as the logistic one that's going to assume a growing importance in the present economy).

But in order to compete efficiently in the internet market, specific strategies and product systems have to be developed. Indeed, both for network features and for the internet user profile, the traditional commercial strategies don't work over the net. In the virtual market the user plays a very active role; searching for products in which the user is interested and opposes the spammers, i.e. those who disseminate advertisements on web sites and e-mail boxes. This does not allow companies to adopt the traditional commercial formula, often based on mass marketing activities, in order to operate efficiently in the virtual trading. In addition, since the Internet network allows (presently) only bytes, and not atoms, to be sent, the trading of the tangible goods over the net appears too complicated and expensive.

In this contest SME attacking the virtual market have to project strategies aiming:

- to increase the weight of the services in the product system;
- to increase the brand fame in order to induce potential customers to perceive the product as exclusive;
- to reduce the customer's perception of risk throughout the trading process.

In other words e-Companies have to organize their product systems in order to induce customers to appreciate the difference between the perceived benefits and the relative costs, measurable in terms of money, time spent in network purchasing activities (such as browsing, e-mails and so on), and mental effort due to information overload, risks, etc.

Once the general idea of the product system is defined, it's necessary to demonstrate the project's long term economic and financial sustainability and suitability, i.e. the future economic and financial Return On Investments (ROI). In this context decisions regarding the economic autonomy of the "initiative" or its dependence on the general

marketing budget have to be made. In this sense the web marketing initiative can be considered both as a project equipped with independent goals and financial sources and also as part of an investment related to the general marketing budget.

The goal of this work has been to provide the general management of a SME, aiming to attack the virtual market, a tool in order to be supported in a possible web based entrepreneurial idea. Finally it consists in developing a *business game*, based on a System Dynamics **simulation model**, evaluating the effects deriving from alternative e-Commerce strategies and policies.

The paper will be developed through six different paragraphs. Initially an updated excursus on what has been, in the literature, developed both from the theoretical and the experimental point of view, will be described in the background paragraph. In order to best introduce the model structure a case study, on the base of which the whole work has been developed, will be described. After the paper principle paragraph i.e. the model description through System Dynamics methodology, a brief description of the environment and development tool through which the simulation model is developed will be presented. Finally, the results of two possible simulation scenarios dealing with the impact of related what-if analysis will be discussed. The conclusions paragraph will close the paper underlining the operative results which presently are gained.

BACKGROUND

Even though there can be found some case studies results dealing with experiences of companies in adopting web marketing investments and related costs and benefits, the literature is poor of tools to support SME in evaluating in advance such policies. There are not so much work developed in this area also because since the beginning of the new century not so many

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